STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Rocky Raccoon** *Agreement #:* **30-076040**

2. Name of applicant: **Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   DNR Northwest Region
   919 North Township Street
   Sedro Woolley, WA 98284
   Contact Person: Candace Johnson (360) 856-3500

4. Date checklist prepared: **03/23/04**

5. Agency requesting checklist: **Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

a.	*Auction Date:*	**01/24/05**
b.	*Planned contract end date (but may be extended):*	**9/30/06**
c.	*Phasing:*	**Not Applicable**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

a.	*Site preparation:*	**Treatment will be assessed in 2-3 years.**
b.	*Regeneration Method:*	**Hand plant with conifer seedlings.**
c.	*Vegetation Management:*	**Treatment will be assessed in 3-5 years.**
d.	*Thinning:*	**Treatment will be assessed in 10-15 years.**

   Roads: **The BR-2401 road, and the BR-02 road (up to the log stringer bridge located at station 63+06) will remain open to access future timber sales.**

   Rock Pits and/or Sale: **The following existing rock pit will be used in the future for timber sales, road maintenance, and other forest management activities:**

   Rocky Raccoon Hardrock Pit (BR-2402-01)
   Section 14, Township 33 North, Range 05 East, W.M.

   Other:

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:* ☒*temp* ☐*sediment* ☐*completed TMDL (total maximum daily load):* **The enclosed department GIS map shows two 303(d) listed waters on Pilchuck Creek. One is located approximately 1.25 miles upstream, and one is located approximately 1.25 miles downstream of the proposal. No impacts are anticipated on these waters due to the fact that one is located upstream from the proposal; the proposal streams are buffered with riparian buffers; and the listed water downstream is greater than one mile from the proposal's tributary streams. Contact the DNR Northwest Region office or visit http://www.ecy.wa.gov/programs/wq/303d for more information.**
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Contact Northwest Region Office**
☒*Wildlife report:* **Contact Northwest Region Office**
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **Contact Northwest Region Office.**
☒*Other:* **Forest Resource Plan & Environmental Impact Statement, July 1992; Final Habitat Conservation Plan, September 1997; State Soil Survey, 1992.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA* ☐*Burning permit* ☐*Shoreline permit* ☐*Incidental take permit* ☒*FPA #* _____ ☐*Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

Proposal area: The Rocky Raccoon Timber Sale is comprised of three units. The proposal area is surrounded by DNR ownership. The sale is located within the Cavanaugh WAU. No watershed analysis has been completed for this area. Timber associated with this proposal will be harvested using ground based and cable yarding methods.

Gross Acreage: The gross acreage (proposal area including leave tree areas) totals 168.3 acres (Unit 1 =66.8 ac; Unit 2= 65.7 ac; Unit 3 = 32 ac; R/W=3.8ac).

Timber Sale Area: The timber sale area (gross acreage minus leave tree areas) as determined by GPS totals 159.7 acres (Unit 1 =63.3 ac; Unit 2= 62.6 ac; Unit 3 = 30 ac; R/W=3.8 ac).

Sale of timber:

Estimated Volume:	**6, 927 MBF**
Total # of Units:	**3**
Area in Acres:	**168.3 gross acres, 159.7 net acres**
Type of Harvest:	**Regeneration**
Logging System:	**Cable & Ground based yarding.**
Landings:	**11 (roads are also available for landings)**

Approximately 390 acres were evaluated for this proposal. There are 33 acres reserved in riparian buffers. A green-up buffer, required by the Departments Forest Resource Plan, was applied to the south of Unit 3. Portions of new road construction will access future harvests.

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.
Pre-Harvest Stand Description: The proposal area contains stands approximately 65-70 years of age, which originated after being logged in the 1930s. The forest type is mixed hardwood and conifer. Snags and down woody material are present in these stands.

These stands have basal areas between 298-345 ft^2/acre; 20% of which is western hemlock (average diameter at breast height (dbh) of 12-17"), 28% Douglas-fir (average dbh of 15-25"), and 20% western red cedar (average dbh of 10-20"). Of the remaining basal area, 32% is red alder. Canopy heights in these stands are roughly 120 feet. Understory vegetation includes salal, Oregon grape, sword fern, huckleberry, and salmonberry.

The proposed sale is not within any reclassified or reclassified plus marbled murrelet polygons. The HCP Legacy Tree Procedure was used to protect unique wildlife trees and contract language written to ensure reasonable tree trading if marked trees block cable yarding or roads.

Overall Unit Objectives: Objectives for this proposal include generating revenue for State Forest Board – Transfer (trust 01), protecting water quality, maintaining site productivity, and protecting/enhancing overall wildlife habitat through a tree retention strategy.
This proposal meets or exceeds all of the guidelines and prescriptions set forth in the DNR Habitat Conservation Plan, Forest Resource Plan, and Forest Practices Rules and Regulations.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		11,323	4.16	
Reconstruction		--		
Abandonment		5,167	1.9	
Bridge Install/Replace	2			
Culvert Install/Replace (fish)	0			

Culvert Install/Replace (no fish)	27			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **Sections 13 and 14 Township 33 North, Range 05 East, W.M.**
Section 18 Township 33 North, Range 06 East, W.M.

b. Distance and direction from nearest town (include road names): **From Arlington, north 5 miles on Highway 9. Right onto the Finn Settlement/Grandstrom Road, 4.5 miles. Right onto the Lake Cavanaugh Road, 3 miles. Left onto the BR-ML, through gate approximately 1.8 miles to Unit 1. "Line-of-sight" distance from Arlington to the proposal is due north 10 miles.**

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

Name	Total Acres	Area of Proposal (Gross Acres)
Cavanaugh WAU	**29,896**	**Approx. 168.3**
Sub-Basin 10	**2,715**	**Approx. 168.3**

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

The Cavanaugh WAU is comprised of public (i.e., federal, state, municipal, county, or tribal), residential, non-industrial and industrial forest.

Name	Acres	DNR managed acres	% DNR managed land	Proposal Acres	Non-DNR land	% Non-DNR land
Cavanaugh WAU	**29,896**	**16,914**	**56**	**168.3**	**12,982**	**43**
Sub-basin 10	**2,715**	**2,541**	**94**	**168.3**	**174**	**6**

The following table reports timber harvest activity in the Cavanaugh WAU within the past seven years on both DNR managed lands and non-DNR lands. The data was compiled from the Department's GIS database. This information is based on the best available information as of February 24, 2004.

WAU	DNR harvest acres: Even-aged	DNR harvest acres: Uneven-aged	Non-DNR harvest acres: Even-aged	Non-DNR harvest acres: Uneven-aged
Cavanaugh	**1,889**	**91**	**3,535**	**26**

Future forest management activities in the WAUs include road building, rock pit expansion, silvicultural work and timber harvesting. 556 acres are planned or under current review for proposed harvest in the WAU. These proposals include Belvedere Bald 2005, 146 acres; Lost Horizons 2006, 111 acres; Stimson Flanks 2006, 40 acres; Bruin Borders 2006,128 acres; and Reality Reach 2006, 131 acres (all acres are based on information as of September 24, 2004).

Activities occurring on DNR managed land will follow Forest Practices Rules, Habitat Conservation Plan (HCP) guidelines, and the Forest Resource Plan – policies designed to minimize environmental impacts. Future forest management activities on privately managed, non-DNR lands will be subject to the Forest Practice Rules.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

Cavanaugh WAU
The Cavanaugh WAU consists of 29,896 acres and varies in landform from flat to mountainous with an elevation range of 393 to 3,966 feet and a mean elevation of 1,631 feet. Several mountains in the WAU include Mt. Washington, Table Mountain, Frailey Mountain, and Bald Mountain. Streams within the WAU flow into Pilchuck Creek or Lake Cavanaugh. Rainfall within the WAU averages 45 to 80 inches annually, with an average of 59 inches. In general, this WAU is in the western hemlock zone. Timber types range from hardwood to conifer. The low to mid-high elevations are populated with red alder, bigleaf maple, and/or cottonwood hardwood stands, and Douglas-fir, western hemlock, and/or western redcedar conifer stands. The higher elevations in the WAU contain conifer stands generally comprised of Pacific silver fir, western hemlock, and/or western redcedar. Forest vegetation is in the western hemlock zone.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The timber harvest portion of the proposal is located in the western portion of the Cavanaugh WAU. The harvest area contains slopes with an elevation range of 1,000 feet to 1,700 feet. Slope gradient varies from 0-85%. Rainfall averages 50-70 inches annually. Timber types are typical for the Cavanaugh WAU.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope is roughly 85%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on landform shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
1957	Silt loam	30-65	50	Medium	Medium
4792	v. Gravelly loam	30-65	26	Medium	Medium
7438	v. Gravelly silt loam	3-30	21	Insignificant	Low
5601	Gravelly silt loam	30-65	24	Medium	Medium
1084	Gravelly loam	3-30	19	Low	Low
1085	Gravelly loam	30-65	21	Medium	Medium
0143	Gravelly loam	65-90	7	High	High

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:
None

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is some evidence of small shallow slope failures (<0.2 acres) along some of the stream reaches in the Cavanaugh WAU. These are generally associated with stream reaches in steep draws that have formed by cutting through dense glacial till.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:
Some shallow rapid slope failures in high elevations may possibly be attributed to older timber harvest and road construction. See B.1.d.1 above.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☒*No* ☐*Yes, describe similarities between the conditions and activities on these sites:*

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.
Roads to be constructed or reconstructed are located in areas where there are no known slope stability issues. The southwest boundary of Unit 1 was located to avoid potentially unstable slopes. Other areas of potential instability are included within stream buffers.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **4.16** *Approx. acreage new landings:* **2** *Fill source:* **Native**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some localized erosion could occur during road construction and log transportation activities. However, prudent road construction techniques and normal maintenance practices will minimize the amount of erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 2.3 acres of graveled forest road will be left in use for future activities. This area constitutes roughly 1% of the net sale area.

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

The north-central portion of Unit 2 will need to be cable logged, as the soil is too wet for ground based harvest systems. Ground base harvesting, will be restricted to the dry season and limited to slopes less than 25%. Energy dissipaters will be installed with culverts to reduce erosion. Relief pipes will be strategically placed to reduce road ditch sediment from entering live streams. Slopes that are exposed during road construction activities will be grass seeded to reduce sediment-laden runoff. Two log stringer bridges will be constructed to minimize impacts to natural stream courses and maintain fish passage where fish are present.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling,* automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

During harvesting activities, no emissions are anticipated other than minor amounts of equipment exhaust and road dust created by log hauling activities. Following harvest, logging slash may be burned.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Not applicable.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If slash burning occurs, it will adhere to the Washington State Smoke Management Act.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*

Unit 1: *Type 2 pond north of Unit 1 has an outlet into the type 3 stream which borders the west and south boundary of Unit 1.
***A type 3 stream borders Unit 1 on the west and south, flowing southeast and eventually draining into Pilchuck Creek.**
***A type 4 stream is just outside the southeast boundary, and flows south into the type 3 stream mentioned above.**

Unit 2: *A type 4 stream borders Unit 2 along the west and south boundary, flowing southeast and eventually draining into Pilchuck Creek.
***A type 4 stream splits the west ½ of Unit 2 and flows southeast into the previously mentioned type 4 stream. A type 5 stream is the beginning of this stream.**
***A type 4 stream borders the lower eastern portion of Unit 2. It flows south into the first mentioned type 4 stream.**
***A type 5 stream splits the east ½ of Unit 2. It flows south into a type 3 stream.**

Unit 3: *A type 4 stream borders north and eastern portions of Unit 3 and flows eventually into Pilchuck Creek.
***A non-typed stream divides Unit 3 and disappears into the forest floor outside the unit boundary. It does not connect into any downstream water.**

a) Downstream water bodies:

Pilchuck Creek flows in to the Stillaguamish River

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Pond	2	1	RMZ 180 feet
Un-named	3	1	RMZ 180 feet
Un-named	4	5	RMZ 100 feet
Un-named	5	2	0
Un-named	Non-typed (9)	1	0

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

Harvesting operations will occur adjacent to the type 5 streams, but there is a 30-foot equipment limitation zone required along the channels. Falling and yarding away from the streams will be required where feasible.
The type 3 stream has a minimum of a 180-foot, no-harvest buffer. A wind buffer was not applied, as the buffer is on the lee side of general wind directions (from the southwest).
The type 4 streams have a minimum of a 100-foot, no- harvest buffer.
Road building will occur within the type 2 buffer, over the type 3 stream outlet of the pond, and over the type 4 stream in Unit 2. For protection measures for the type 2 stream, refer to B.1.h. Because the site index buffer line is close to the center line of the road, the road prism will not be cutting next to the type 2 water, or even very far into the buffer; there will still be *at least* a 150-foot buffer.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map.)*
Description (include culverts):

The felling and yarding of timber will occur within the buffer of the pond (type 2) in Unit 1, but no closer than 150 feet. Felling and yarding will occur 180 feet from type 3 streams, and 100 feet from type 4 streams. See B.3.a.1.b. table for buffer sizes. The felling and yarding of timber will occur adjacent to the type 5 stream channels. A 34-foot log stringer bridge will be used to cross a type 4 stream and a 28-foot log stringer bridge to cross a type 3 stream.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
Does not apply.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*

☐*No* ☒*Yes, description:* **Diversions may be necessary while installing culverts or bridge crossings on flowing streams. Any diversions will follow the HPA**

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

The sub-basin contains soils that are susceptible to surface erosion and/or mass wasting according to the state soil survey data. The soil survey data for soils on the harvest site indicate an insignificant to high potential for mass wasting and a low to high potential for surface erosion see B.1.c above. Slopes in the proposal area are subject to local surface erosion where surface soils are disturbed. Some soil disturbance is anticipated in conjunction with yarding and road construction activities. Surface erosion control/prevention measures discussed in B.1.h. would minimize or prevent delivery to surface waters. There is little potential for eroded material to enter surface waters as a result of activities associated with this proposal.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☒*No* ☐*Yes, describe changes and possible causes:*

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☒*No* ☐*Yes, explain:*

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

WAU	Sub-basin(s)	Road miles per square mile
Cavanaugh WAU	**-**	**4.0 miles per section**
“	**Sub-basin 10**	**6.6 miles per section**

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?
☒*No* ☐*Yes, describe observations:*

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.
The proposal it is not expected to negatively influence peak flow. See also A.12.c, B.3.a.11, and B.3.a.12.

15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?
☒*No* ☐*Yes, possible impacts:*
The Skagit County web site was used to identify wells in the vicinity of the proposal. Four wells were indicated on the resulting map, all within commercial state forest. The associated drilling companies were contacted, and one of the four sites was corrected to another section (data input error). Another has an address of Big Lake, indicating the wrong location. The third was an attempt to contact a well owner, but the phone had been disconnected. The well company decommissioned this well. The fourth, the well company would not return my calls. Based on this information, all the wells in the proposal area were assumed to be incorrectly located.

16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.
This project should have minimal influence on peak flow. The project will retain trees on site (see B.4.b.2), which will assist in the continued infiltration of water during storm events, mitigating the influence of removing timber off the site. Also, all perennial water sources were provided riparian buffers (see B.3.a.1.b above), which is a retaining of green trees in the proposal site in addition to those counted in B.4.b.2. All roads will be constructed to meet or exceed Forest Practice standards. Also, yarding and log transportation will be restricted during unfavorable weather conditions so as to reduce the potential of impacting water quality.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Channeling water through ditches and culverts emptying out onto the forest floor will increase surface saturation in a local area, but is not expected to increase ground water.

Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
Insignificant amounts of oil and other lubricants could be inadvertently spilled as a result of heavy equipment use. No lubricants will be disposed of on site.

3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.
Due to the nature of resource protective measures of the proposal, there should be no measurable affect on down-slope or downstream ground water resources. See B.3.a.16 above.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
Storm water runoff intercepted by gravel roads will collect in road ditches and be diverted through cross drain culverts back to the forest floor. Runoff is not expected to flow into other waters, with proper placement of culverts.

2) Could waste materials enter ground or surface waters? If so, generally describe.

It is not expected that any waste materials will enter ground or surface waters in conjunction with this proposal.

a) Note protection measures, if any.
None.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

See surface water, ground water, and water runoff sections above, questions B.3.a.1.bc, B.3.a.16, B.3.b.3.a, and B.3.c.2.a.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒*cottonwood,* ☐*western larch,* ☐*birch,* ☒other: cherry
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☒*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other: Sword fern, Oregon grape,*
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☐*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*
This proposal will partially remove second growth conifer and deciduous trees on approximately 168.3 acres of conifer forest. Some alteration of shrubs and ground vegetation may occur during the course of harvest activity.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

Unit 1
North, west, and south are stands similar in age, structure, and species.
East is a 12-year-old stand of Douglas-fir, western redcedar, western hemlock, and hardwoods.
Southeast is a two-year-old stand of Douglas-fir, western redcedar, western hemlock, and hardwoods.

Unit 2
Northwest is an 11-year-old stand.
Northeast, west, and south is similar in age, structure, and species.
East is a 9-year-old stand.

Unit 3
North, east, south, and southwest is similar in age, structure, and species.
West is a 9-year-old stand.

2) Retention tree plan:
In Unit 1 a total of 601 green/wildlife trees will be retained (an average of 8.7 trees per acre). This represents 7% of the stem count greater than 12" dbh according to FRIS inventory data. 3 large snags were protected by leave tree clumps.

In Unit 2, a total of 655 green/wildlife trees will be retained (an average of 9.8 trees per acre). This represents 7% of the stem count greater than 12" dbh according to FRIS inventory data.

In Unit 3, a total of 298 green/wildlife trees will be retained (an average of 9.3 trees per acre). This represents 7% of the stem count greater than 12" dbh according to FRIS inventory data.

Retention trees are both scattered and clumped to provide a wide variety of upland habitat diversity. Trees selected for retention are generally either in the dominant or co-dominant crown classes, containing structural characteristics important to wildlife, and indicating wind firmness. Leave tree clumps are tagged with yellow "Leave Tree Area" tags. Scattered leave trees are painted with blue rings.

c. List threatened or endangered *plant* species known to be on or near the site.
DNR's TRAX system indicates no known threatened, endangered or special concern species on or near the proposal area.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Wildlife and green retention trees will be left on site in a clumped and scattered pattern. Conifer trees will be planted upon completion of the proposal. Furthermore, soils exposed due to road construction will be grass seeded or straw mulched.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☒*pigeon*, ☐other:
mammals: ☒deer, ☒bear, ☐elk, ☒beaver, ☐other:
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*
DNR's TRAX system indicates no known threatened, endangered or special concern species within the proposal area.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*
All of Washington State is considered part of the Pacific flyway. No impacts are anticipated as a result of this proposal.

d. Proposed measures to preserve or enhance wildlife, if any:

An assortment of trees will be left on the proposal site. The provision of RMZ buffers retains elements of the forest stand structure condition as seen prior to the harvest. The maintenance of leave trees in these buffer areas may help mitigate the impact of harvesting trees on site in the short term, by retaining undisturbed small ecological niches. The post-harvest residual stand of trees will retain structural elements in the interior of the proposal area to mitigate wildlife habitat values disturbed due to harvest activities. Also, the RMZ buffers preserve existing riparian functions, protecting riparian obligate species. See also, B.1.h, B.3.a.1.b, B.3.a.1.c, and B.4.b.2.

Species/Habitat: **Riparian area** Protection Measures: **See above description**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
Does not apply.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
Does not apply.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.
There is minimal hazard due to heavy equipment operations. There is a potential fire hazard if operating in moderate fire weather conditions during the summer.

1) Describe special emergency services that might be required.
Does not apply.
2) Proposed measures to reduce or control environmental health hazards, if any:
The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing. Also, the DNR employs seasonal fire fighting crews to reduce the response time period for the initial attack phase of wildfire suppression.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.
Noise from log trucks and logging equipment will be present while operating during daylight hours.
3) Proposed measures to reduce or control noise impacts, if any:

None proposed. Hauling noise will be consistent with past activities in this area.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*
Forest management (timber production). Residential structures exist along the access roads and in the local community at Lake Cavanaugh.

b. Has the site been used for agriculture? If so, describe.
No.

c. Describe any structures on the site.
Does not apply.

d. Will any structures be demolished? If so, what?
Does not apply.

e. What is the current zoning classification of the site?
Commercial Forest.

f. What is the current comprehensive plan designation of the site?
Forest Management.

g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
Does not apply.

i. Approximately how many people would reside or work in the completed project?
Does not apply.

j. Approximately how many people would the completed project displace?
Does not apply.

k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The design of this project is consistent with current comprehensive plans and zoning regulations.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Does not apply.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Does not apply.

c. Proposed measures to reduce or control housing impacts, if any:
Does not apply.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?
Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☐*No* ☒*Yes, viewing location:*
Views may be altered in the Lake Cavanaugh area and along the eastern portion of the Lake Cavanaugh Road.

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒*No* ☐*Yes, scenic corridor name:*

3) *How will this proposal affect any views described in 1) or 2) above?*
This proposal is out of view from major corridors traveled by the public, due to the surrounding topographic features.

c. Proposed measures to reduce or control aesthetic impacts, if any:
None.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Does not apply.

b. Could light or glare from the finished project be a safety hazard or interfere with views?
Does not apply.

c. What existing off-site sources of light or glare may affect your proposal?
Does not apply.

d. Proposed measures to reduce or control light and glare impacts, if any:
Does not apply.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
There are designated official recreational off-road-vehicle trails in the area. This leads to an array of recreational use in the area such as motorcycle riding, hiking, horseback riding, hunting, and mushroom and berry collecting.

b. Would the proposed project displace any existing recreational uses? If so, describe:
Recreational use would be limited in proposal vicinity only during active harvest operations, estimated to be a portion of time between January 2005 through October 2006.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
Recreation managers have been informed and consulted during the pre-sale development, and included in the pre-work conference with the purchasers of the timber sale. Trails within the proposal area are required to be posted as closed during harvest operations. There is an existing ORV bridge located at the same location as a proposed road bridge on the BR-02 Road. The ORV bridge will be removed and then replaced following the harvest.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.
None known.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.
None.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)
None.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.
Interstate 5, Highway 530, Highway 9, Finn Settlement/Grandstrom Road, Lake Cavanaugh Road, Deer Creek Mainline, South Shore Drive.

1) Is it likely that this proposal will contribute to an <u>existing</u> safety, noise, dust, maintenance, or other transportation impact problem(s)?
No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
No. The distance to the nearest transit stop is approximately 17 road miles, located in the city of Arlington.

c. How many parking spaces would the completed project have? How many would the project eliminate?
Does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).
See A.11.c.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?
The transportation of logs is consistent with past usage of the transportation system in the surrounding area. There will be (approximately 10-20) log truck trips per day during the active log transport period of the project. It may have minimal, but temporary, impact on the Finn Settlement/Grandstrom Road, Lake Cavanaugh Road, South Shore Drive, and Highway 9, but this would not be unusual for the area.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.
None.

g. Proposed measures to reduce or control transportation impacts, if any:
Safe operation of vehicles will be encouraged.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.
No.

b. Proposed measures to reduce or control direct impacts on public services, if any.
Gated roads. The harvest operator is required to have pump truck and fire-fighting tools on site during fire season. Operation/access is restricted during periods of extreme fire danger.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
Does not apply.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.
Does not apply.